Request to Archive
With The National Centers for Environmental Information
For High-resolution Infrared Radiation Sounder (HIRS) Total Precipitable Water
Provided by National Climatic Data Center

2014-08-29

This information will be used by NCEI to conduct an appraisal and make a decision on the request.

1. Who is the primary point of contact for this request?

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2. Name the organization or group responsible for creating the dataset.

NCDC will create the product using code developed and delivered by UWI-MAD/SSEC/CIMSS > Cooperative Institute for Meteorological Satellite Studies, Space Science and Engineering Center, University of Wisconsin, Madison

3. Provide an overview summarizing the scope of data you want to archive. Describe the outputs, data variables, including their measurement resolution and coverage.

For 1983 to present and covering the region from 60N to 60S non-polar global HIRS total column integrated precipitable water (TPW) and integrated moisture layer column (QP) are determined using radiances measured in spectral bands located within the broad 15 μm CO2 absorption region following the production of HIRS Cloud Amount and Cloud Top Pressure.

More specifically, the following moisture properties are processed and given as monthly statistics: TPW, upper tropospheric moisture (QH) denoted by moisture found for P < 440 hPa, mid-level moisture (QM) denoted by moisture found between 440 hPa and 680 hPa, and low-level moisture (QL) denoted by moisture below 680 hPa. All moisture variables are computed over each 0.5 degree grid cell four times per day and then averaged over the month.

4. What is the time period covered by the dataset? (YYYY-MM-DD, YYYY-MM or YYYY)

From 1983-05-04
Ongoing as continuous updates to the data record

5. Edition or version number(s) of the dataset:

v1

6. Approximate date when the dataset was or will be released to the public:

2014-06-01

7. Who are the expected users of the archived data? How will the archived data be used?

NCDC affiliates and GEWEX participants

8. Has the dataset undergone user evaluation and/or an independent review process? Did NCEI participate in design reviews?
No

9. Describe the dataset's relationship to other archived datasets, such as earlier versions or related source data. If this is a new version, how does it improve upon the previous version(s)?
The production of the data are dependent on the processing output for the HIRS CTP cloud product.

10. List the input datasets and ancillary information used to produce the data.
The UW Madison TPW algorithm needs three sources of input files: HIRS L1B netcdf files, a NWP reanalysis files, and UW IFOV CTP product files. For generating the HIRS clear-sky TPW products, the UW-Madison IFOV CTP algorithm has to be run first for the whole swath. The algorithm uses the IFOV CTP outputs to determine the clear IFOV. HIRS FOVs are determined to be clear if the collocated PATMOS-x cloud mask indicates no cloud (cloud fraction = 0) and the clear sky calculated minus observed HIRS radiances in the CO2 spectral bands are below a threshold value (CTP retrieval flag = 2 or 3). The NCEP Climate Forecast System ReAnalysis (http://cfs.ncep.noaa.gov/cfsr/) 0.5 degree products are used as the NWP reanalysis.

11. List web pages and other links that provide information on the data.
Yes CF-1.6 includes file and collection level metadata

12. List the kinds of documents, metadata and code that are available for archiving. For example, data format specifications, user guides, algorithm documentation, metadata compliant with a standard such as ISO 19115, source code, platform/instrument metadata, data/process flow diagrams, etc.
1. CATBD-TPW

13. Indicate the data file format(s).
1. netCDF-4

14. Are the data files compressed?
No

15. Provide details on how the files are named and how they are organized (e.g., file_name_pattern_YYYYMM.tar in monthly aggregations).
daily mean output files will have names like:
HIRS_NM.D09001_daily_glb_tpw_V1.0.nc
monthly mean output files will have names like:
HIRS_NM.D0901_monthly_glb_tpw_V1.0.nc
*Some changes should be expected here to include 4 different daily products as well.

16. Explain how to access sample data files and/or a file listing for previewing. If it is not available now, when will it be available?
Sample data has been delivered to the IPT for viewing through Google Drive and ftp transfer from CIMMS/SSEC

17. What is the total data volume to be submitted?
Historic Data: all historic data or data submitted as a completed collection.

Total Data Volume:	1.2TB
Number of Data Files:	44190

Continuous Data: data volume rate for a continuous data production.

Total Data Volume Rate: 3.4GB per Month
Data File Frequency: 120 per Month
Data Production Start: 2015-01-01

18. Are later updates, revisions or replacement files anticipated? If so, explain the conditions for submitting these additional data to the archive.

No additional updates, revisions or replacement data are anticipated.

19. Describe the server that will connect to the ingest server at NCEI for submitting the data.

Physical Location: NCDC/CICS
System Name: HEADNODE
System Owner: CICS
Additional Information:

20. What are the possible methods for submitting the data to NCEI? Select all that apply.

1. FTP PULL

21. Identify how you would like NCEI to distribute the data. Web access support depends on the resources available for the dataset.

1. Unknown

22. Will there be any distribution, usage, or other restrictions that apply to the data in the archive?

No known constraints apply to the data.

23. Discuss the rationale for archiving the dataset and the anticipated benefits. Mention any risks associated with not archiving the dataset at NCEI.

HIRS provides the only 30 plus year record of IR measurements sensitive to CO2, H2O, and O3; these processed for cloud and moisture observation trends constitute a unique record that subsequent investigators will study with new insights.

24. Are the data archived at another facility or are there plans to do so? Please explain.

No

25. Is there an existing agreement or requirement driving this request to archive? Have you already contacted someone at NCEI?

No

26. Do you have a data management plan for your data?

No

27. Have funds been allocated to archive the data at NCEI?

No

28. Identify the affiliated research project, its sponsor, and any project/grant ID as applicable.

N/A

29. Is there a desired deadline for NCEI to archive and provide access to the data?

Archive by: 2015-01-01

Accessible by: 2015-05-01

30. Add any other pertinent information for this request.

None